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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/760,233	01/21/2004	Kia Silverbrook	MPA09US	2195

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SILVERBROOK RESEARCH PTY LTD
393 DARLING STREET
BALMAIN, 2041
AUSTRALIA

EXAMINER	
MARTIN, LAURA E	

ART UNIT	PAPER NUMBER
2853	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/760,233	SILVERBROOK ET AL.	
	Examiner	Art Unit	
	Laura E. Martin	2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 December 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/ are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Silverbrook (US 2002018083) in view of Lee (US 6069710).

Silverbrook discloses the following claim limitations:

As per claim 1: at least one printhead module comprising at least two printhead integrated circuits [0058-0059], each of which has nozzles formed therein for delivering printing fluid onto the surface of print media, a one piece support member commonly supporting and carrying the printing fluid for at least two printhead integrated circuits (figure 8, single piece supports and carries chambers which contain printing fluid), and an electrical connector for connecting electrical signals to the at least two printhead integrated circuits [0047-0048]; drive electronics; a mounting element on which the drive electronics are mounted (figure 9); and a casing removably mounting.(figure 8) the at least one printhead module, and the mounting element, the printhead module being mounted through clamping of the support member to a support frame of the casing by a clamping arrangement, the clamping arrangement being configured to allow constrained movement of the print module relative to the support frame during use (there will

be slight movement due to the vibrations of the printer and surrounding environment) the casing being configured to removably mount the printhead assembly to a printer unit (figure 8).

Silverbrook does not disclose the following claim limitations:

As per claim 1: Silverbrook does not disclose controllers for processing print data and controlling printing via the electrical connector to print processed print data .

Lee discloses the following claim limitations:

As per claim 1: Lee discloses controllers for processing print data and controlling printing via the electrical connector (circuit) to print processed print data (column 1, line 35-column 2, line 13).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the printhead assembly of Silverbrook et al. with the disclosure of Lee in order to create more efficient printing apparatus.

Claims 2 and 4-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Silverbrook (US 20020180834) and Lee (6069710), and further in view of Silverbrook et al. (US 6439908).

Silverbrook discloses the following claim limitations:

As per claim 2: the casing comprises a support frame on which at least two mounting elements are arranged in abutting relationship along a longitudinal direction of the casing (figure 8), the at least two controllers are arranged on a

printed circuitry board [0047], each of the printed circuit boards being removably mounted by at least one of the two or more mounting elements.

Silverbrook as modified does not disclose the following claim limitations:

As per claim 2: the printed circuitry boards being interconnected by an electrical connecting member located between the abutting mounting elements.

As per claim 4: the electrical connecting member comprises a non conductive material which is clad with conductive strips, the electrical connecting member being arranged so as to fit within the recess formed between abutting mounting elements.

As per claim 5: the conductive strips are positioned to overlay a series of spaced connection strips at the edge regions of each of the individual printed circuit boards.

As per claim 6: there is twice as many conductive of the electrical connecting member as there are connection strips of the printed circuit boards, whereby each connection strip of the printed circuit board will engage with at least one of two adjacent conductive strips.

As per claim 7: one printed circuit board having one controller thereon is supported by more than one mounting element.

As per claim 8: the at least one printhead module is formed as a unitary arrangement of the at least two printhead integrated circuits, the support member, the electrical connector, and at least one fluid distribution member mounting the at least two printhead integrated circuits to the support member;

and the support member has at least one longitudinally extending channel for carrying the printing fluid for the printhead integrated circuits and includes a plurality of apertures extending through a wall of the support member arranged so as to direct the printing fluid from the at least one channel to associated nozzles in both, or if more than two, all of the printhead integrated circuits by way of respective ones of the fluid distribution members.

Silverbrook et al. discloses the following claim limitations:

As per claim 2: each of the printed circuit boards being removably mounted (figure 8, element 22) by at least one of the two or more mounting elements (figure 2, element 28)and being interconnected by an electrical connecting member (figure 14, element 96 and 56) located between the abutting mounting elements (figure 5).

As per claim 4: the electrical connecting member comprises a non-conductive material (figure 14, element 96) which is clad with conductive strips (figure 14, elements 58 and 60), the electrical connecting member being arranged so as to fit within the recess formed between abutting mounting elements (see figure 5).

As per claim 5, Silverbrook et al. teaches a printhead assembly according to claim 4, wherein the conductive strips are positioned to overlay (figure 14, elements 58 and 60) a series of spaced connection strips at the edge regions (figure 3, elements 102, 106) of each of the individual printed circuit boards (figure 3, element 54).

As per claim 6: there is twice as many conductive strips (figure 14, elements 58, 60) of the electrical connecting member as there are connection strips of the printed circuit boards (figure 3, element 28), whereby each connection strip of the printed circuit board will engage with at least one of two adjacent conductive strips (see figure 3).

As per claim 7: one printed circuit board having one controller thereon is supported by more than one mounting element (figure 3, elements 24, 26, 28; column 3, lines 49-50 and 59-65).

As per claim 8: the at least one printhead module (figure 2, element 10) is formed as a unitary arrangement of the at least two printhead integrated circuits (figure 4, element 18), the support member (figure 7, element 16), the electrical connector (figure 8, element 48), and at least one fluid distribution member (figure 7, element 26) mounting the at least two printhead integrated circuits to the support member; and the support member has at least one longitudinally extending channel for carrying the printing fluid for the printhead integrated circuits and includes a plurality of apertures (figure 7, element 42) extending through a wall of the support member arranged so as to direct the printing fluid from the at least one channel to associated nozzles in both, or if more than two, all of the printhead integrated circuits by way of respective ones of the fluid distribution members (figure 7, column 3, lines 45-47).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the printhead assembly taught by Silverbrook as modified with the disclosure of Silverbrook et al. in order to create a higher quality printing apparatus.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Silverbrook (US 20020180834) Lee (6069710), and Silverbrook et al. (US 6439908), and further in view of King et al. (US 6457810).

Silverbrook discloses the following claim limitations:

As per claim 3: the apparatus of claim 1.

Silverbrook as modified does not disclose the following claim limitations:

As per claim 3: the mounting elements comprise side regions having raised and recessed portions arranged so that the recessed portions of abutting mounting elements form a recess into which the electrical connecting member can be replaced.

King et al. discloses the following claim limitations:

As per claim 3: the mounting elements comprise side regions having raised and recessed portions arranged so that the recessed portions of abutting mounting elements form a recess into which the electrical connecting member can be replaced (figure 3, column 3, lines 31-46).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the printhead assembly taught by Silverbrook et al. with

the disclosure of King et al. in order to provide a less complicated means of manufacturing.

Response to Arguments

Applicant's arguments with respect to claims 1-8 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura E. Martin whose telephone number is (571) 272-2160. The examiner can normally be reached on Monday - Friday, 7:00 - 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D. Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Laura E. Martin

MANISH S. SHAH
PRIMARY EXAMINER
1/4/08